

In Idaho, Montana, and Wyoming, the western portions of the Dakotas and Nebraska temperature was below normal for four consecutive months, viz, during February, March, April, and May, and also, but in a less degree, during the months of June, July, August, October, and December.

The summer was marked by an absence of periods of continued high temperature. Very nearly normal conditions prevailed in all parts of the country.

The fall of the year was generally mild and free from sharp and decided temperature changes.

Interlake navigation began about the first of May and ended about December 17. The weather in the closing months was quite free from severe storms.

The average monthly and annual departures of temperature from the normal during 1899 by geographic districts are shown in Table A.

PRECIPITATION.

The precipitation of the year just ended was not evenly distributed. There were seven separate regions, of greater or less extent, in which more than the normal quantity of rain and snow fell, viz: (1) The Pacific coast from central California to British Columbia, including part of the central and

A drought of much greater importance, measured by its effect upon agricultural and industrial interests, prevailed throughout the region of the lower Lakes and the Middle and New England States. The fall of rain and snow on the headwaters of the streams in New England, along which so many manufacturing interests are centered, was not sufficient to give the normal summer flow in the streams, and a number of mills were obliged to shut down. In New York State numerous forest fires swept over the drought-stricken regions.

On the Pacific coast the precipitation of the last rain year, viz, September, 1898-May, 1899, was far below the normal amount. The present rain year began quite auspiciously, and there had fallen, up to December 31, considerably more than the normal amount of rain.

Table B gives the monthly departures of precipitation for each geographic district.

METEOROLOGY OF THE GREAT LAKES.

The season of navigation was remarkably free from severe storms. April and May, in which months at least one severe storm is expected, passed without any unusual atmospheric disturbance. Likewise October and November, generally considered the most dangerous months of the season, brought no

TABLE B.—Monthly and annual departures of precipitation from the normal during 1899.

Districts.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
New England.....	10	-0.1	+0.2	+2.9	-1.4	-1.8	-0.5	+0.2	-2.0	+0.7	-1.8	-1.9	-1.8	-7.3
Middle Atlantic.....	12	-0.4	+1.8	+1.3	-1.9	-1.3	-1.0	0.0	-0.4	+0.4	-0.6	-1.6	-1.7	-5.6
South Atlantic.....	10	-0.2	+2.7	+1.4	-0.3	-1.6	-1.8	+0.3	0.0	+3.1	+0.8	-1.2	-1.4	-7.2
Florida Peninsula.....	2	+2.3	+2.3	-0.4	+0.8	-3.0	0.0	+1.4	-1.5	-0.1	+2.3	-1.8	0.0	+2.3
East Gulf.....	7	+0.2	-0.4	-1.6	-2.4	-2.8	-0.8	+1.0	-0.2	-3.0	-1.0	-1.1	+0.7	-11.0
West Gulf.....	7	+1.1	-1.6	-2.0	-1.0	-0.9	+0.3	+0.8	-2.5	-2.7	+0.6	-1.3	+0.5	-8.7
Ohio Valley and Tennessee.....	11	+0.1	-0.7	+2.5	-1.6	-0.5	-1.5	-0.6	-0.8	-1.0	-0.5	-1.5	-0.1	-6.2
Lower Lakes.....	8	-0.3	-0.8	+1.2	-1.2	+0.5	-1.8	-0.4	-2.1	-0.2	-0.9	-1.6	+0.7	-6.9
Upper Lakes.....	10	-0.8	-1.0	+0.1	-0.5	+0.3	+0.2	+0.5	-0.9	-0.2	-0.5	-1.6	+0.1	-4.3
North Dakota.....	3	-0.2	-0.3	+0.2	-0.9	+1.3	+0.3	-1.2	-0.4	-0.8	-0.3	-0.4	0.0	-2.7
Upper Mississippi.....	11	-0.6	-0.2	+0.2	-0.7	+2.5	+0.2	-0.3	+0.5	-1.3	-0.3	-0.8	-0.1	-0.8
Missouri Valley.....	10	-0.6	-0.4	-1.0	-1.0	-0.2	+0.1	-1.2	-0.7	-1.4	0.0	-0.5	0.0	-5.6
Northern Slope.....	7	+0.1	+0.1	+0.5	-0.8	+1.1	-1.0	-0.1	0.0	-0.6	+0.4	-0.1	+0.2	-0.2
Middle Slope.....	2	-0.5	-0.3	-0.2	-0.7	+0.2	+2.0	+1.8	-0.8	0.0	+1.5	+1.0	+0.3	+4.2
Southern Slope.....	2	-0.4	-1.3	-0.7	-0.2	+0.8	+1.7	+2.2	-2.6	+1.0	+0.2	+2.0	+1.0	+3.7
Southern Plateau.....	5	-0.3	-0.5	-0.4	-0.1	-0.4	+0.3	+0.5	-0.7	-0.2	-0.4	+0.1	-0.8	-2.9
Middle Plateau.....	3	-0.3	0.0	+1.1	-0.7	+0.3	-0.1	-0.1	+0.3	-0.5	+0.5	-0.3	-0.9	-0.7
Northern Plateau.....	5	-0.1	0.0	-0.4	-0.1	-0.1	-0.8	-0.3	-0.8	-0.2	+1.3	-0.8	-0.4	+0.5
North Pacific.....	8	+3.0	+1.8	-1.8	+1.0	+1.1	-0.9	-0.7	-1.7	-1.7	+1.4	+3.2	0.0	+11.1
Middle Pacific.....	5	+0.5	-3.0	+2.7	-1.6	-0.4	-0.1	0.0	-0.2	-0.4	+2.4	+3.3	-1.6	+2.0
South Pacific.....	4	+0.4	-2.5	+1.0	-0.8	-0.3	+0.5	0.0	0.0	-0.1	+1.3	0.0	-1.2	-1.7

all of the northern Plateau; (2) eastern Wyoming and the Black Hills region of South Dakota; (3) eastern Colorado, Kansas, Oklahoma, and the panhandle of Texas; (4) northern Wisconsin and the Lake Superior region; (5) southeastern Iowa and central Illinois; (6) a narrow strip of country east of the Appalachians, extending from Augusta, Ga., to Washington, D. C.; (7) the western portion of the Peninsula of Florida.

Precipitation was markedly deficient in the lower Mississippi Valley, the deficits at the two regular Weather Bureau stations in Louisiana being 25 and 29 inches, respectively. The rainfall of the Gulf States in 1898 was almost normal, and it seemed at the end of that year that the droughty conditions which had prevailed for a number of years were about to come to an end. The year just closed, however, presents the same marked deficiency in precipitation throughout the Gulf States and Texas that has characterized so many years within the last decade. The cause of the deficiency is not, at present, known.

storms of sufficient violence to seriously interfere with navigation for any length of time. The most severe storm of the season occurred on December 11 and 12 at a time, however, when a large number of vessels had gone out of commission.

The rainfall in the Lake Superior basin was above normal. The snowfall of the winter and spring months was rather heavy not only in the Superior basin but also on the northern shore of Lake Huron, particularly in the Georgian Bay region. On the other hand, precipitation was generally below normal in the basins of Lakes Erie and Michigan, and also over those portions of the watersheds of Lakes Huron and Ontario, lying within the boundaries of the United States.

There was less fog reported during the season of 1899 than during the previous season. The most fog was observed over the central portion of Lake Superior.

A large amount of ice formed on the lakes during the winter of 1898-99, but winter navigation on Lake Michigan was not suspended except during the severe cold in the early part of February.